

AMENDMENT TO THE DRAWINGS

The attached sheets of drawings include changes to Fig. 1. This sheet replaces the original sheet for Figs. 1-2.

In Fig. 1, reference numerals 10, 14 and 16 have been removed.

REMARKS

Claim Election

Applicants note that the Examiner has withdrawn claim 2 from consideration because the feature is not shown in Fig. 5. However, Applicants also note that claim 3 was not withdrawn, and that claims 2 and 3 have overlapping ranges. Accordingly, it is not understood why claim 2 has been withdrawn while claim 3 has not.

Applicants also request that upon allowance of an independent claim, any withdrawn claims depending from such an allowed claim be rejoined and allowed.

In the Drawings:

The drawings have been objected to.

Reference numeral 50 has been deleted from the specification.

Reference numerals 10, 14 and 16 have been removed from Fig. 1 in the attached replacement sheet.

Withdrawal of the objection is respectfully requested.

In the Specification

The changes suggested by the Examiner have been made. Withdrawal of the objection is respectfully requested.

112, second paragraph

Claims 3, 11-15 and 17-20 have been rejected under 35 USC 112, second paragraph. Claims 3, 11, 12 and 20 have been amended in a manner believed to obviate the rejection under 35 USC 112, second paragraph. Accordingly, withdrawal of the objection is respectfully requested.

Claims 1, 3-5, 8, 11-14, 17, and 20-22

Claims 1, 3-5, 8, 11-14, 17, and 20-22 have been rejected under 35 USC 102(b) as being anticipated by Koyanagi et al. (US2002/0071205).

Claim 1 has been amended in a manner believed to overcome Koyanagi.

Claim 1 requires that the upper and lower layers are fixedly coupled together without requiring external biasing thereagainst for the fixed coupling. This means that the composite ring thus formed, is a unitary part. The unitary nature of the claimed ring is further defined by the preamble referring to the ring as a “composite” ring.

In sharp contrast, Koyanagi’s top clamp 21 and clamp ring 51 are individual and separable parts requiring biasing to couple them together. A drawback of the separable parts, as in Koyanagi, is that when the bolts are tightened, the top clamp and spacer become deformed due to the uneven pressures exerted by the individual bolts. The deformation translates out to the disk, creating an uneven “wavy” disk surface, which is most prominent at the inner diameter of the disk. Any unevenness (waviness) on the disk surface compounds the tendency to lose the servo, especially near the inner diameter zone closest to the spacer ring. Further, it has been found that stresses induced on the top disk in the stack transfer down and propagate into some or all of the remaining disks in the stack. Thus, it would be desirable to reduce uneven stresses at the top disk so that the remaining disks remain flat.

The claimed invention seeks to reduce the propensity for deformation and higher fabrication and assembly costs associated with separable parts. The claimed composite spacer overcomes this problem by providing a composite spacer that distributes stresses more evenly due to its layered construction. These issues are discussed at p. 3, line 6 to p. 4, line 8 of the present application and summarized below.

Another issue with individual clamps (21) and spacers (51), as in Koyanagi, is the high cost of assembling the drives. Each spacer must be placed in the drive and then the top clamp added and bolted down. This process is time consuming.

The claimed invention reduces assembly costs by coupling the top clamp and top spacer ring together so that they can be placed in the drive at the same time. This saves a processing step in that only one piece (top clamp-spacer composite) need be handled instead of two parts (top clamp and spacer ring individually). The cost savings

obtainable by using a composite structure is dramatically increased in new high capacity drives which require only a few disks as opposed to several. For example, in a drive with five disks, five parts must be handled: the top clamp-spacer composite and four more spacer rings. In a drive with only two disks, only two parts are handled: the top clamp-spacer composite and one spacer between the disks.

Additional cost savings are realized by the present invention in that it is no longer necessary to machine two surfaces in such a way to match flatness during manufacture of the top clamp and top spacer ring themselves, as required in assemblies such as that shown in Koyanagi.

Accordingly, it is apparent that Koyanagi does not meet the requirements of claim 1, particularly as amended. Reconsideration and allowance of claim 1 is respectfully requested.

Claims 3-5, 8, 11 and 25 depend from claim 1, and are therefore also believed to be allowable.

Claim 12 has been amended in a manner similar to claim 1. For the same reasons as set forth above for claim 1, claim 12 is believed to be allowable. Reconsideration and allowance of claim 12 is respectfully requested.

Claims 13, 14, 17, and 20 depend from claim 12, and are therefore also believed to be allowable.

Claim 21 has been amended in a manner similar to claim 1. For the same reasons as set forth above for claim 1, claim 21 is believed to be allowable. Reconsideration and allowance of claim 21 is respectfully requested.

Claim 22 depends from claim 21, and is therefore also believed to be allowable.

Claims 6, 9-10, 15, 18-19 and 23

Claims 6, 9-10, 15, 18-19 and 23 have been rejected under 35 USC 103(a) as being unpatentable over Koyanagi.

Claims 6, 9-10 depend from claim 1, and therefore incorporate the limitations of claim 1. By virtue of their dependence, claims 6, 9-10 are also believed to be allowable. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Reconsideration and allowance of claims 6, 9-10 is respectfully requested.

Claims 15, 18-19 depend from claim 12, and therefore incorporate the limitations of claim 12. By virtue of their dependence, claims 15, 18-19 are also believed to be allowable.

Claim 23 depends from claim 21, and therefore incorporates the limitations of claim 21. By virtue of its dependence, claim 23 is also believed to be allowable.

In addition, claims 9 and 18 each require that the layers are coupled together with an adhesive. Claims 10 and 19 each require that the layers are coupled together at a molecular level. Because these features are not found in the prior art, the rejection of claims 9, 10, 18 and 19 rely on official notice. Official notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known. As noted by the court in *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970), the notice of facts beyond the record which may be taken by the examiner must be "capable of such instant and unquestionable demonstration as to defy dispute" (citing *In re Knapp Monarch Co.*, 296 F.2d 230, 132 USPQ 6 (CCPA 1961)). It is never appropriate to rely solely on "common knowledge" in the art without evidentiary support in the record, as the principal evidence upon which a rejection was based. *Zurko*, 258 F.3d at 1385, 59 USPQ2d at 1697.

Applicants respectfully challenge the taking of official notice, and respectfully assert that it was not notorious and well known in the ring art to couple layers together, much less using an adhesive or at a molecular level, as asserted in the rejection. As

evidence of the erroneous taking of official notice, Applicants point to Koyanagi Fig. 6, which requires that the layers be biased together for fixed coupling. Further, Koyanagi contains no suggestion that the various layers are fixedly coupled together, as by an adhesive or molecular bonding. Accordingly, claims 9, 10, 18 and 19 are believed to be distinguishable from the proposed combination of art.

If a future rejection of claims 9, 10, 18 and 19 rely on Official Notice, Applicant requests a specific showing in the art of a composite ring for coupling a disk to a spindle having two layers that are fixedly coupled together by an adhesive and at a molecular level, and that meets all of the *Graham* criteria, and further that predates Applicants' date of invention.

Further, regarding claims 6, 9-10, 15, 18-19 and 23, the Examiner is also reminded that the claimed invention as a whole must be considered. In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983).

"[A] patentable invention may lie in the discovery of the source of a problem even though the remedy may be obvious once the source of the problem is identified. This is part of the 'subject matter as a whole' which should always be considered in determining the obviousness of an invention under 35 U.S.C. § 103." *In re Spomoble*, 405 F.2d 578, 585, 160 USPQ 237, 243 (CCPA 1969). In the instant case, Applicants discovered the source of a problem, namely that separable clamps and rings as in Koyanagi fail to remedy the translated waviness from the clamping pressure.

In sharp contrast, Koyanagi fails to propose a solution for disk waviness, and so it cannot be said that Koyanagi discovered the source of a problem. Nor can it be said that Koyanagi contains the same solution for a similar problem.

Thus, the prima facie case proposed by the Examiner is not supported by the reference. Accordingly, in order to establish a prima facie case of obviousness where the advance in the art lies in the discovery of the problem or source of the problem, as

here, the Examiner must provide evidence that a person of ordinary skill in the art at the time of the present invention would have expected a problem to exist. As noted by the court in *In Re Nomiya*, 509 F.2d 566, 572, 184 USPQ 607, 612 (CCPA 1975):

[Where] there is no evidence of record that a person of ordinary skill in the art at the time of [an applicant's] invention would have expected [a problem],.... it is not proper to conclude that [an invention], which solves this problem... would have been obvious to that hypothetical person of ordinary skill in the art. The significance of evidence that a problem was known in the prior art is, of course, that knowledge of a problem provides a reason or motivation for workers in the art to apply their skill to its solution.

Absent such evidence in the record, the rejection based Koyanagi cannot stand.

Should the Examiner wish to discuss this matter further, the Examiner is invited to call the undersigned at (408) 971-2573. For payment of any fees due in connection with the filing of this paper, the Commissioner is authorized to charge such fees to Deposit Account No. 50-2587 (Order No. SJO920030158US1).

Respectfully submitted,

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